

Smallpox Questions and Answers
April 22, 2003

THE DISEASE

1. What is smallpox?

Smallpox is a serious contagious viral disease that usually causes a severe whole body rash. The rash starts out as red spots that enlarge, become pus-filled and then scab. Other symptoms include fever, lack of energy, headache, backache, and vomiting. Smallpox is caused by Variola virus.

2. How is smallpox spread?

In most cases, smallpox is spread from one person to another by face-to-face contact for several hours. During close contact, a “healthy” person can breathe respiratory droplets from a sick person. Individuals with smallpox are most infectious after a rash appears.

3. How dangerous is smallpox? Is it fatal?

The majority of patients with smallpox recover. Death may occur in as many as three out of every 10 individuals who become sick with the disease.

4. Does it leave any permanent scars or disfigurements?

Permanent scars may occur in 65 to 80 percent of survivors.

5. If someone comes in contact with smallpox, how long does it take to show symptoms?

Following exposure, the incubation period is about 12 days, but can range from 7 to 17 days before symptoms may show.

6. Is smallpox contagious before the symptoms show?

A person with smallpox is sometimes contagious during the period of high fever, a day or so before the skin rash, because of lesions in the mouth.

7. What are the signs and symptoms of smallpox?

Smallpox begins with a high fever, head and body aches, and sometimes vomiting. A rash follows that spreads and progresses to raised pus-filled bumps that scab and fall off after about three weeks, and may leave a pitted scar.

8. What should a person do if they think they have smallpox?

Someone who has smallpox symptoms should immediately contact his doctor and avoid contact with other people.

9. How long does it take to diagnose smallpox?

A physician who has been trained to identify smallpox can identify the disease immediately during an examination.

10. Could others become infected while the diagnosis is pending?

Patients with symptoms of smallpox are capable of infecting others. They should be vaccinated immediately and avoid contact with others.

11. Is there any treatment for smallpox?

There is currently no proven treatment for smallpox. Patients with smallpox may be comforted from therapy such as intravenous fluids, medicine to control fever or pain, and antibiotics for any secondary infections that may occur.

12. Is there a vaccine for smallpox?

There is an effective vaccine to prevent smallpox (see VACCINATION).

13. If someone is exposed to smallpox, is it too late to get a vaccination?

If the vaccine is given within three to four days after exposure to smallpox, it can prevent illness or lessen its severity.

SMALLPOX REALITIES IN 2003

14. When was the last case of smallpox?

The last naturally acquired case of smallpox occurred in Somalia in 1977. In the United States, routine vaccination against smallpox ended in 1972.

15. Are we expecting a smallpox attack?

Concerns over the potential use of biological agents as weapons have heightened our awareness of the possibility of such an attack.

16. Is there an immediate smallpox threat?

At this time we have no information that suggests an imminent smallpox threat.

17. If smallpox is released in aerosol form, how long does the virus survive?

The smallpox virus is fragile. In lab experiments, 90 percent of aerosolized smallpox virus dies within 24 hours. In the presence of sunlight, this percentage would be even greater.

18. What should people do if they suspect a patient has smallpox?

Any suspected cases of smallpox should be immediately reported to your local health department, which is responsible for notifying the state health department, the FBI, and

local law enforcement. The state health department will notify the federal Centers for Disease Control and Prevention (CDC).

19. How can we stop the spread of smallpox after someone comes down with it?

Patients with symptoms of smallpox are capable of spreading the virus. Patients should be isolated so that they will not continue to spread the virus. In addition, individuals who have come into close contact with smallpox patients should be vaccinated immediately and closely watched for symptoms of smallpox. Vaccination and isolation of contacts are the most effective strategies for stopping the spread of smallpox.

20. Does DHS have a smallpox plan?

DHS, in collaboration with federal and local health officials, has developed plans for vaccinating teams of public health and health care workers and for responding to a potential outbreak of smallpox.

VACCINATION

21. Should I get vaccinated against smallpox?

Vaccination is not recommended for the general public at this time and the vaccine is not available to the public. Routine smallpox vaccination was terminated in the U.S. in 1972 because the risk of complications outweighed the threat of the disease. In the absence of a confirmed case of smallpox anywhere in the world, there is no need for the general public to be vaccinated against smallpox.

22. I had smallpox vaccination when I was a child. Am I still protected?

Smallpox vaccination is believed to last five to 10 years. For adults who were vaccinated as children, it's not known whether their smallpox vaccination would prevent illness. Adults who may be exposed to smallpox should receive an additional vaccination to ensure protection.

23. There are reports indicating that people who were vaccinated many years ago may have immunity to the current vaccinations. Is that true? What do you recommend for them?

Adults who were vaccinated for smallpox as children can have their immunity boosted by being vaccinated again.

24. Many of us received smallpox vaccinations years ago and don't recall hearing of risks involved or serious consequences occurring. Why are there so many problems with side effects now?

Even though you don't recall hearing about problems in past years, there were some. The side effects are not new, but they are not frequent, either. In the past, between 14 and 52 per 1 million people vaccinated experienced life-threatening reactions. Also, it is estimated that between 1 and 2 out of every 1 million people vaccinated may die as a result of life-threatening reactions to the vaccine.

25. Is the vaccine effective if it is administered within a few days after somebody has been exposed to smallpox?

Yes. If the vaccine is given within three to four days after exposure to smallpox, it can prevent illness or lessen its severity.

26. What are the alternatives to vaccination?

Avoiding exposure to smallpox will reduce the risk of contracting the disease. If exposure to smallpox is a possibility, then the best way to protect yourself from the disease is vaccination.

27. Are there any side effects or problems with the vaccine?

There are side effects and risks with the smallpox vaccine. Most people will experience a mild reaction that includes a sore arm, fever, and body aches. For individuals with high-risk health conditions, the vaccine may cause serious complications and even death.

28. What are the risks of the smallpox vaccines?

The overall risks of serious complications of smallpox vaccination occur more frequently in those being vaccinated for the first time and among young children. An estimated one to two deaths occur for every million persons vaccinated. One of the most frequent serious complications is encephalitis (brain inflammation), which occurs in about one in 300,000 children who are vaccinated, and one in 200,000 vaccinated adults. Other vaccine-related adverse events include generalized rash due to the vaccine virus itself.

29. If people are vaccinated, can they infect members of their families or co-workers?

The vaccine contains a live virus, called Vaccinia, which is related to smallpox. It can spread to other parts of the body or other people. This can be prevented through proper care of the vaccination site.

30. Could somebody who is newly vaccinated infect others around them?

Because the vaccine contains a live virus, it can spread to other parts of the body, or to other people. This can be prevented through proper care of the vaccination site.

31. There are reports that somebody who has been vaccinated can infect others, especially those with certain skin disorders or weakened immune systems, for up to three weeks. Is that true?

Vaccinated individuals can potentially transmit the vaccine virus to others until the vaccine site has healed and the scab has fallen off. This can be up to three to four weeks after vaccination.

32. What is the risk of spreading the vaccinia virus to co-workers at a hospital or clinic?

The risk of spreading vaccinia virus to co-workers at a hospital or clinic is extremely low if proper hand hygiene and site care instructions are followed. Vaccinia is spread by touching the vaccination site, bandages or clothing that have become contaminated and

then touching yourself or another person. The vaccination site should be kept bandaged and covered with long-sleeved clothing. Hands should be washed any time they touch the vaccine site or the bandage.

33. Do healthcare workers who have been vaccinated need to wear masks when working with immunocompromised patients?

The vaccinia virus is spread by touch, not through the air. There is no need for a vaccinated healthcare worker to wear a mask.

34. How much smallpox vaccine is available in case of a bioterrorism attack using smallpox?

The government currently has 15 million doses which can be diluted to 75 million doses and still retain its potency. The drug company Aventis Pasteur has donated an additional 80 million doses that could be used in an emergency. The government is also buying 220 million doses which are being made by a new technique. Delivery of the new doses is expected by the end of 2003.

35. If there were an outbreak here, do you have enough vaccine and trained medical people in the area to handle the inevitable rush for vaccinations?

There is enough vaccine to respond to a smallpox outbreak. The California Department of Health Services is working with local health departments to train and vaccinate enough health care workers to respond if there was an outbreak.

36. If people got the vaccination in the past when it was used routinely, will they be immune?

Smallpox vaccination is believed to last five to 10 years. For adults who were vaccinated as children, it's not known whether their previous smallpox vaccination would prevent illness. Adults who may be exposed to smallpox should receive an additional vaccination to ensure protection.

37. Is a history of no adverse reactions in childhood to smallpox vaccine a predictor of no or minor reactions to revaccination in adulthood?

Persons previously vaccinated have a much lower risk of adverse reactions when revaccinated. However, no adverse reaction to the vaccine in childhood is not a guarantee of safety as an adult. Many of the conditions that increase the likelihood of serious adverse reactions may not have been present in childhood.

38. Who will decide who should be vaccinated and when?

The CDC and the U.S. Department of Health and Human Services have recommended that states vaccinate teams of public health and health care workers who would respond to a smallpox outbreak. We are working with local health officials to implement a plan for the voluntary vaccination of these workers. Once that is complete, efforts will turn to police, fire and other emergency workers.

OTHER QUESTIONS

39. Who should not get the smallpox vaccine?

Smallpox vaccine should not be given to individuals with a history or presence of eczema or other skin conditions, pregnant and breastfeeding women, or persons with immunodeficiency diseases and those with suppressed immune systems as occurs with leukemia, lymphoma, generalized malignancy, HIV/AIDS, or solid organ transplantation.

40. Will antibiotics like ciprofloxacin protect me against smallpox?

No. Because smallpox is a virus, antibiotics such as ciprofloxacin will not fight the infection.

41. If a recently vaccinated person goes swimming in a pool or lake before their scab falls off, can vaccinia virus spread to others through the water?

There have been no reported cases of vaccinia virus being spread in a lake or ocean. Vaccinees are encouraged to keep the vaccination site dry. A waterproof dressing should be used for swimming. If, however, someone who was recently vaccinated went swimming in a pool, the virus would be killed by the chemicals that are used to keep the pool clean.

42. Where can I get more information about smallpox?

Visit the following web sites: www.dhs.ca.gov; www.cdc.gov; www.smallpox.gov .